

REMARKS

The foregoing amendment amends Claims 1, 5, 12 and 13 to clarify the claimed invention. Claims 1-13 are currently pending in this application. For the reasons set forth below, Applicants believe that the rejections should be withdrawn and that Claims 1-13 are in condition for allowance.

REJECTION OF CLAIMS 5, 10, AND 11 UNDER 35 U.S.C. 102(a)

The Examiner rejected Claims 5, 10 and 11 under 35 U.S.C. 102(a) as being anticipated by U.S. Publication No. 2003/0060162 to Shinagawa *et al.* (“Shinagawa”). For at least the following reasons, the Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

Claim 5

The foregoing amendment to Claim 5 clarifies that the transceiver includes “an insulating case that incorporates said transceiver main body, wherein said transmitting electrode is provided on a bottom and a side of an external wall surface of said insulating case, so that the transmitting and receiving electrode is adapted to allow said electric field transmission medium to closely approach the bottom and the side, and said transmitting electrode is covered with an insulating film so as not to be in direct contact with said electric field transmission medium.” According to one embodiment illustrated in Figure 27, an insulating case 33 incorporates the transceiver main body 30, such that the transmitting electrode 105 is provided at least on a bottom and a side of an external wall of the insulating case 33, and is covered with an insulating film 107 so as not to be in direct contact with the electric field transmission medium 100.

When a human hand (electric field transmission medium) holds a traditional transceiver, an electric field for transmission is induced in the human hand from a transmitting and receiving electrode of the transceiver, however a part of the electric field returns from the human hand to the transceiver via a side surface of the case of the transceiver. If the transmitting and receiving electrode is provided only along the bottom of

the transceiver, then the induced electric field returned to the case prevents the transceiver from carrying out normal transmission operation. (*See e.g.*, [0038] and Fig. 9).

The embodiment illustrated in Figure 27 overcomes this problem by providing a transmitting electrode 105 that is attached to the bottom and the side of an external wall surface of the insulating case 33. The insulating film 107 covers the transmitting electrode 105. The transmitting electrode 105 and the insulating film 107 cover not only the bottom of the external wall surface of the insulating case 33 but also the side of the external wall surface of the insulating case 33. When an electric field transmission medium 100, such as a human hand holds the transceiver 3a, transmission of electric fields E1, E2 and E3 are induced from the insulating case 33, however, the return of a part of the electric fields from the human hand 100 to the transceiver 3a via the side surface of the insulating case 33 is restricted. (*See e.g.*, [0232], [0248]-[0249]; Figs. 27, and 30-34).

Figure 11 of Shinagawa illustrates a transceiver 3 including a transmission and reception electrode 105' and an insulation film 106'. The transmission and reception electrode 105' is provided in proximity with the living body 100 through the insulation film 106'. Shinagawa discloses that the electric fields based on transmission data are induced in the living body 100 from the transmission and reception electrode 105' through the insulation film 106'. (*See e.g.*, Abstract, [0067], [0087], [0099], Figs. 7, 9 and 11).

Figure 11 of Shinagawa does not disclose an insulating case that incorporates a transceiver main body, as required by Claim 5. As illustrated in Figure 11 of Shinagawa, the insulation film 106' of the transceiver 3 does not incorporate a transceiver main body. Additionally, none of the figures or corresponding sections of Shinagawa cited by the Examiner disclose a transceiver that includes an insulating case incorporating a transceiver main body, wherein a transmitting electrode is provided on the bottom and side of an external wall of the insulating case, as required by Claim 5. Shinagawa also does not disclose a transceiver that includes a transmitting electrode provided on the bottom and the side of a portion of an external wall of an insulating case, which is covered with an insulating film, as required by Claim 5. A comparison of Figure 27 of the present application and Figure 11 of Shinagawa, illustrates the distinct differences in the structure of the transceivers.

When the electric field transmission medium closely approaches the transceiver, the impedance between the electric field transmission medium and the transmitting electrode is expressed by an equivalent circuit composed of a parallel resistor and capacitor. In order to make the induced electric field large and thereby improve the reliability of communication, it is necessary to make the capacitance component large so as to make the impedance small since the resistance component is large. By increasing the area covered by the transmitting electrode so that the transmitting electrode covers the portions of the transceiver that come in contact with the electric field transmission medium, the capacitance is increased. Additionally, surrounding the transceiver body by a transmitting electrode having a large area provides noise suppression. (*See e.g.*, [0215]-[0221]).

As demonstrated by the foregoing, Shinagawa does not disclose or suggest each and every element of Claim 5. Accordingly, Claim 5 is patentable over Shinagawa.

Claims 10 and 11

Claims 10 and 11 depend from Claim 5. Accordingly, for at least the same reasons discussed above, Claims 10 and 11 are patentable over Shinagawa.

REJECTION OF CLAIMS 1-4, 6-9, 12 AND 13 UNDER 35 U.S.C. 103(a)

The Examiner rejected Claims 1-4 under 35 U.S.C. 103(a) as being unpatentable over Shinagawa in view of U.S. Publication No. 2003/0151600 to Takeuchi *et al.* (“Takeuchi”), and further in view of U.S. Publication No. 2004/0066605 to Trinh (“Trinh”). The Examiner rejected Claims 6-9 under 35 U.S.C. 103(a) as being unpatentable over Shinagawa in view of Takeuchi. The Examiner rejected Claims 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Shinagawa in view of U.S. Publication No. 2004/0254435 to Mathews *et al.* (“Mathews”). For at least the following reasons, the Applicants respectfully traverse the rejections and request reconsideration and withdrawal thereof.

Claim 1

The foregoing amendment to Claim 1 clarifies that the transceiver includes “an insulating case that incorporates said transceiver main body, wherein said transmitting and receiving electrode is provided on a bottom and a side of an external wall surface of said

insulating case so that the transmitting and receiving electrode is adapted to allow said electric field transmission medium to closely approach the bottom and the side” and “a second structure that is interposed between said transceiver main body and said insulating case.” According to one embodiment, as shown in Figure 27, in addition to the insulating case 33 incorporating the transceiver main body 30 (as described above in detail), an insulating foam member 7a (or an insulating pillar 99a - *see* Figure 31) is sandwiched between the transceiver main body 30 and the insulating case 33. This defined configuration prohibits noise from entering the transceiver main body 30 from the insulating case 33. (*See e.g.*, [0230], [0251], [0255]-[0257], Figs. 27 and 30-35).

As described above in detail, Shinagawa does not disclose or suggest a transceiver that includes, an insulating case incorporating a transceiver main body. Additionally, Shinagawa does not disclose a transmitting and receiving electrode that is provided on the bottom and side of an external wall of an insulating case, and a second structure that is interposed between a transceiver main body and the insulating case, as required by Claim 1. As illustrated in Figure 11 of Shinagawa, the transmission and reception electrode 105’ is not provided on the bottom and side of an external wall of the insulation film 106’, and a second structure is not interposed between a transceiver main body and the insulation film 106’.

Shinagawa does not disclose or suggest a transceiver that includes, an insulating case incorporating a transceiver main body, and a transmitting and receiving electrode that is provided on the bottom and side of an external wall of the insulating case, and a second structure that is interposed between the transceiver main body and the insulating case, as required by Claim 5. In addition, neither the figures nor corresponding sections of Takeuchi and/or Trinh cited by the Examine disclose or suggest the claimed configuration. Accordingly, Claim 1 is patentable over Shinagawa in view Takeuchi and further in view of Trinh.

Claims 2-4

Claims 2-4 depend from Claim 1. Accordingly, for at least the same reasons discussed above, Claims 2-4 are patentable over Shinagawa in view of Takeuchi and further in view of Trinh.

Claims 6-9

Claims 6-9 depend from Claim 5 and Takeuchi also fails to disclose or suggest the claimed configuration of Claim 5. Accordingly, for at least the same reasons discussed above, Claims 6-9 are patentable over Shinagawa in view of Takeuchi.

Furthermore, with respect to Claims 7, 8 and 9, Takeuchi does not disclose a transceiver that includes an insulating member between a battery and transceiver main body, that is composed of “a foam member containing air,” “a plurality of wooden pillars” or “a cushion member having predetermined gas confined therein” as required by Claims 7, 8 and 9, respectively.

Paragraph [0105] of Takeuchi cited by the Examiner merely discloses that as an alternative the power supply circuit and the transceiver may be stacked upon and insulated from each other. The cited sections of Takeuchi do not describe the composition of the insulation film. Additionally, none of the figures or corresponding sections of Takeuchi cited by the Examiner disclose a transceiver that includes an insulating member between a battery and transceiver main body. For example, according to one embodiment, Figure 31 of the present invention illustrates an insulating member 99b between a battery 6 and transceiver main body 30, wherein the insulating member 99b is a plurality of wooden pillars.

Takeuchi does not disclose or suggest a transceiver that includes an insulating member between a battery and transceiver main body, wherein the insulating member is composed of “a foam member containing air,” as required by Claim 7, “a plurality of wooden pillars,” as required by Claim 8, or “a cushion member having predetermined gas confined therein,” as required by Claim 9. A comparison of Figures 27 and 31 of the present application and Figures 3A and 5A of Takeuchi, illustrate the distinct differences. Takeuchi does not disclose or suggest each and every element of Claims 7, 8 and 9.

Claims 12 and 13

Similar to Claim 5, amended Claims 12 and 13 require a transceiver that includes an insulating case that incorporates said transceiver main body, wherein said transmitting electrode (required by Claim 12) or receiving electrode (required by Claim 13) is provided on a bottom and a side of an external wall surface of said insulating case, and said

transmitting electrode (required by Claim 12) or receiving electrode (required by Claim 13) is covered with a first insulating film so as not to be in direct contact with said electric field transmission medium. As discussed above, Shinagawa does not disclose or suggest the claimed configuration. In addition, none of the figures or corresponding sections of Mathews cited by the Examiner disclose or suggest the claimed configuration. Accordingly, for at least the same reasons discussed above, Claims 12 and 13 are patentable over Shinagawa in view of Mathews.

Furthermore, Claims 12 and 13 require that said receiving electrode (required by Claim 12) or transmitting electrode (required by Claim 13) is provided on an external wall surface of said first insulating film and is covered with a second insulating film so as not to be in direct contact with said electric field transmission medium. According to one embodiment illustrated in Figure 34, a receiving electrode 105b is provided on an external wall surface of the first insulating film 107a, and is covered with a second insulating film 107b so as not to be in direct contact with the electric field transmission medium 100. According to another embodiment illustrated in Figure 35, a transmitting electrode 105a is provided on an external wall surface of the first insulating film 107a, and is covered with a second insulating film 107b so as not to be in direct contact with the electric field transmission medium 100.

Figures 6, 8 and 10 of Shinagawa cited by the Examiner do not disclose a receiving/transmitting electrode provided on an external wall surface of a first insulating film and being covered with a second insulating film, as required by Claims 12 and 13. Figures 6, 8 and 10 of Shinagawa illustrate that the reception electrode 107 is not provided on an external wall surface of the first insulation film 106, and the reception electrode 107 is not “covered with” the second insulation film 108. A comparison of Figures 34 and 35 of the present application with Figures 6, 8 and 10 of Shinagawa, illustrates the distinct differences in the structure of the transceiver.

The Examiner relied on Mathews for disclosing a transceiver with an insulating case, wherein the transmitting/receiving electrode is provided on an external wall surface of the insulating case and is covered with a first insulating film, and the corresponding

receiving/transmitting electrode is provided on an external wall surface of the first insulating film.

Figure 2 of Mathews cited by the Examiner illustrates a probe 12 positioned adjacent to a patient 14 and including a probe housing 18, an electrode 20 and an insulating coat 22. The probe housing 18 is made of an insulating material and holds the electrode 20. The insulating coating 22 covers the portion of the electrode 20 exposed to the patient 14. (*See*, [0030]-[0035], and Figs. 1 and 2). Mathews does not disclose or suggest that the electrode 20 is provided on a bottom and a side of an external wall surface of the probe housing 18, and is covered with a first insulating coat 22. Mathews does not describe or suggest an additional electrode that is provided on an external wall surface of the first insulating coat 22. As illustrated in Figure 2 of Mathews the electrode 20 is not provided on the bottom and side of the external wall surface of the probe housing 18 and there is no additional electrode that is provided on the external wall surface of the first insulating coat 22.

CONCLUSION

The foregoing is submitted as a complete response to the Office Action identified above. This application should now be in condition for allowance, and Applicants solicit a notice to that effect. If there are any issues that can be addressed via telephone, the Examiner is asked to contact the undersigned at 404.685.6799. The Commissioner is authorized to charge any additional fees that may be due or credit any overpayment to Deposit Account No. 11-0855.

Respectfully submitted,

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